

Application No. 10/653,037
Examiner: Howard V. Owens, Jr.
Page 2

IN THE CLAIMS:

Claims 1-108 (Canceled).

109. (New) A method for reducing a mixture of a plurality of malto-oligosaccharide species to a dextrose equivalent (DE) of less than about 1, each of said malto-oligosaccharide species having a non zero DE resulting from the presence of a reducing end group on said malto-oligosaccharide species, said plurality of malto-oligosaccharide species differing at least in degree of polymerization (DP) value thus defining a DP profile for said mixture, said plurality of malto-oligosaccharides comprising a maltodextrin, said method comprising the steps of:

providing said malto-oligosaccharide mixture; and

catalytically hydrogenating said mixture under hydrogenation condition suitable to substantially preserve the DP 1-8 profile of said mixture.

110. (New) Method according to claim 109, said method including a step of hydrogenating said mixture in the presence of a metal hydrogenation catalyst.

111. (New) Method according to claim 110, said catalyst being a metal catalyst selected from the group consisting of platinum, palladium, ruthenium; rhodium, and activated

Application No. 10/653,037
Examiner: Howard V. Owens, Jr.
Page 3

112. (New) Method according to claim 111, said catalyst being activated nickel.

113. (New) Method according to claim 112, said catalytic hydrogenation being performed at a temperature ranging from about 50 degrees C to about 150 degrees C and a pressure ranging up to about 1500 psi.

114. (New) Method according to claim 113, said catalytic hydrogenation being performed at a temperature ranging from about 100 degrees C to about 110 degrees C and a pressure ranging up to about 1500 psi.

115. (New) Method according to claim 114, said pressure ranging from about 200 psi to about 1500 psi.

116. (New) Method according to claim 114, said temperature ranging from about 110 degrees C to about 120 degrees C and said pressure ranging from about 400 psi to about 700 psi.

117. (New) Method according to claim 116, wherein said pH ranges from about 4.4 to about 6.5.

118. (New) Process for the reduction of a malto-oligosaccharide mixture, the process comprising the step of:

Application No. 10/653,037
Examiner: Howard V. Owens, Jr.
Page 4

providing a catalytic bed including a hydrogenation catalyst;

providing a malto-oligosaccharide mixture including a plurality of malto-oligosaccharide species, each of said malto-oligosaccharide species having a non zero DE resulting from the presence of a reducing end group on said malto-oligosaccharide species, said plurality of malto-oligosaccharide species differing in at least in DP value thus defining a DP profile for said mixture, said mixture of malto-oligosaccharide comprising a maltodextrin; and

continuously introducing said malto-oligosaccharide mixture and hydrogen to said catalytic bed under hydrogenation conditions sufficient to catalytically hydrogenate said mixture to reduce the DE thereof to less than about 1, said conditions being suitable to substantially preserve the DP 1-8 profile of said mixture.

119. (New) Process according to claim 118, said catalyst being a metal catalyst selected from the group consisting of platinum, palladium, ruthenium, rhodium, and activated nickel.

120. (New) Process according to claim 119, said metal catalyst being activated nickel.

Application No. 10/653,037
Examiner: Howard V. Owens, Jr.
Page 5

121. (New) Process according to claim 120, said catalytic hydrogenation being performed at a temperature ranging from about 100 degrees C to about 110 degrees C and a pressure ranging up to about 1500 psi.

122. (New) Process according to claim 121, said pressure ranging from about 200 psi to about 1500 psi.

123. (New) Process according to claim 121, said pressure ranging from about 400 psi to about 700 psi and said temperature ranging from about 110 degrees C to about 120 degrees C.

124. (New) Process according to claim 118, wherein said malto-oligosaccharide mixture is reduced in said catalytic bed at a pH ranging from 3.5 to about 8.5.

125. (New) Process according to claim 124, wherein said pH ranges from about 4.5 to about 6.5.

126. (New) Method for preparing a reduced malto-oligosaccharide, comprising the steps of:

providing a starch;

Application No. 10/653,037
Examiner: Howard V. Owens, Jr.
Page 6

hydrolyzing said starch to provide a mixture of a plurality of malt-o-
oligosaccharide species, each of said malt-o-oligosaccharide species having a
maltose unit.

resulting from the presence of a reducing end group on said malto-oligosaccharide
species, said plurality of malto-oligosaccharide species differing at least in degree of
polymerization (DP) value thus defining a DP profile for said mixture, said mixture of
malto-oligosaccharides comprising a maltodextrin; and

catalytically hydrogenating said malto-oligosaccharide species under
hydrogenation conditions suitable to substantially preserve the DP 1-8 profile of said
mixture and to reduce the DE of said mixture to less than about 1.

127. (New) Method according to claim 126, wherein said malto-oligosaccharide mixture
is catalytically hydrogenated at a pH ranging from about 3.5 to about 8.5

128. (New) Method according to claim 127 wherein said pH ranges from about 4.5 to
about 6.5.